BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT : Lyle THEISEN
SERIAL NO. : 09/843,219
FILED : April 26, 2001
TITLE : THERMOCHROMIC/PHOTOCHROMIC COSMETIC COMPOSITIONS
Group/A.U. : 1617
Examiner : Gina C. YU
Conf. No. : 8367
Docket No. : P04822US0

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

This is an Appeal from the rejection of claims 33-52 (Final Office Action dated September 30, 2003). This brief is submitted pursuant to 37 CFR §1.192 in furtherance of the Notice of Appeal filed for this case on December 30, 2003.

I. Real Party in Interest:

The real party in interest of this instant appeal is Lyle THEISEN.

CERTIFICATE OF MAILING (37 C.F.R. § 1.8(A))

I hereby certify that this document and the documents referred to as enclose therein are being deposited with the United States Postal Service as First Class mail addressed to: Mail Stop Appeal Brief - Patents, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 10th day of June 2004.

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II. Related Appeals and Interferences:

There are no related appeals or interferences.

III. Status of the Claims:

Claims 33-52 are pending in the application, and stand as finally rejected (Final Office Action dated September 30, 2003). Claims 33-52 are hereby identified as the claims being appealed.

IV. Status of the Amendments:

No amendment to the application has been filed subsequent to the final rejection.

V. Summary of the Invention:

The present invention provides a reversible photochromic and/or thermochromic cosmetic composition for use in cosmetics such as aqueous hair and skin product formulations. In general, the reversible cosmetic composition includes a water-based cosmetically acceptable carrier having a photochromic composition dispersed within the carrier, and a fixed color dye also dispersed within the carrier and located exterior to the dispersed photochromic composition. Thus, when the photochromic composition is in a non-activated state reflecting no color, the reversible cosmetic composition still contains coloring from the fixed color dye. Conversely, when the photochromic composition is activated, the reversible cosmetic composition has a coloring that is a combination of the fixed color dye coloring and the photochromic composition coloring, and does not directly take on the color of the photochromic composition.

In addition to the photochromic composition and the fixed color dye, a thermochromic composition may also be dispersed within the carrier. The thermochromic composition is activated

based on changes in temperature, while the photochromic composition is activated based on changes in light. The addition of the thermochromic composition permits the reversible cosmetic composition to convey four different color schemes: first, where the thermochromic and photochromic are not activated; second, where the thermochromic is activated and the photochromic is not activated; third, where the thermochromic is not activated and the photochromic is activated; and, fourth, where both the thermochromic and photochromic are activated. Additionally, in each of these four cases, the fixed color dye impacts the color rendered by the reversible cosmetic composition.

More specifically, the composition of the photochromic composition or a combination of photochromic and thermochromic compositions is a concentration of 10-30% by weight of the reversible cosmetic composition. The fixed color dye has a concentration of 5-25% by weight of the reversible cosmetic composition. A light stabilizer is dispersed within the carrier, and has a concentration of 3-4% by weight of the reversible cosmetic composition. A bactericide is dispersed within the carrier, and the reversible cosmetic composition is formulated to have a pH within the range of about 6.8 to 7.2. The photochromic composition is suitably comprised of a benzene derivative and a binder. Similarly, a suitable thermochromic composition comprises from about 20-40% by weight thermo set resin from about 15-45% by weight cholesterol, from about 15-30% weight water, and from about 10-30% by weight dye. As formulated above, the reversible cosmetic composition is shelve-stable for a time period of at least two years.

VI. Issues:

Issue 1: Whether claims 36, 39, and 42 are anticipated under 35 U.S.C. § 102 by Ohno (U.S. Pat. No. 5,628,934).

Issue 2: Whether claims 37 and 38 are obvious under 35 U.S.C. § 103 in view of Ohno.

Issue 3: Whether claims 33, 35, and 40 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno and Motion (U.S. Pat. No. 5,656,668).

Issue 4: Whether claims 34 and 41 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno and Akshi (U.S. Pat. No. 5,166,345).

Issue 5: Whether claims 47-50 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno and Coates (U.S. Pat. No. 5,188,815).

Issue 6: Whether claims 43, 45, 46, and 51 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno, Motion, and Coates.

Issue 7: Whether claims 44 and 52 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno, Akshi, and Coates.

VII. Grouping of the Claims:

The groups below are independently patentable and their patentability will not rise or fall together.

Group I: Claims 36-39, and 42. Claim 36 is an independent composition claim and claims 39 and 42 depend therefrom.

Group II: Claims 37 and 38.

Group III: Claims 33, 35, and 40. Claim 33 is an independent composition claim.

Group IV: Claims 34 and 41.

Group V: Claims 47-50. Claim 47 is an independent composition claim.

Group VI: Claims 43, 45, 46, and 51. Claim 43 is an independent composition claim.

Group VII: Claims 44 and 52.

The arguments below support the separate patentability of these claims.

VIII. Argument:

Issue 1: Whether claims 36, 39, and 42 are anticipated under 35 U.S.C. § 102 by Ohno (U.S. Pat. No. 5,628,934).

A. Group I Is Not Anticipated Because Each And Every Element Of The Claimed Invention Is Not Identically Shown In The Reference

The Examiner states that Ohno discloses the claimed invention, stating that Ohno discloses an emulsified foundation comprising zinc oxide and zirconium oxide composite possessing photochromic properties, water, preservative, and iron oxide, which is viewed as a "fixed dye". See col. 21, Example 7.

Applicant asserts that the Examiner has failed to make a prima facie case for anticipation for the following reasons:

(1) For prior art references to be anticipated under 35 U.S.C. § 102, each and every element of the claimed invention must be identically shown in the reference. Ohno does not disclose the limitation found in independent claim 36 reciting a reversible cosmetic composition which includes a photochromic composition and a separate "fixed colored dye dispersed within a water-based cosmetically acceptable carrier". The Examiner

states that the iron oxide of Example 7 discloses "a fixed dye". Applicant cannot agree. Contrary to the Examiner's representation of Example 7, iron oxide is not disclosed as a "fixed dye," but rather as a component for providing photochromic properties. Specifically, Ohno (at column 5, lines 21-26) states (with emphasis added) that:

> In addition, in this invention, **examples of the metals which are used to give photochromic properties** to the titanium oxide **include iron**, chromium, copper, nickel and manganese, cobalt, molybdenum, etc., and their metal powders themselves, or their salts such as sulfates, chlorides, nitrates, acetates, etc., **their oxides** or their hydrates, etc.

The text above from Ohno describes "iron" and its "oxides" as photochromic agents. Thus, the "iron oxide" cited by the Examiner as a "fixed dye" is instead explicitly disclosed as an example of a metal "used to give photochromic properties", and can in no way be construed to be a "fixed dye" in the Examples provided in Ohno. Accordingly, these claims are not anticipated by Ohno.

Issue 2: Whether claims 37 and 38 are obvious under 35 U.S.C. § 103 in view of Ohno.

A. Group II Is Not Obvious Because There Is No Teaching or Suggestion of All of the Claim Limitation to Make Out a Prima Facie Case

The Examiner states that Ohno discloses the claimed invention, stating that Ohno discloses foundation comprising up to 20% of photochromic titanium oxide and up to 20% ordinary titanium oxide.

Applicant asserts that the Examiner has failed to make a prima facie case for obviousness since the prior art reference does not teach or suggest all of the claim limitations. Specifically, as Applicant's claims 37 and 38 depend from independent claim 36 of Group I, they therefore also recite a reversible cosmetic composition which includes a photochromic composition and a separate fixed colored dye dispersed within a water-based cosmetically acceptable carrier.

As argued above with respect to anticipation provided by Ohno, Ohno does not teach, suggest, or disclose the limitation found in Applicant's claims 37 and 38 reciting a reversible cosmetic composition which includes a photochromic composition and a separate "fixed colored dye dispersed within a water-based cosmetically acceptable carrier". The Examiner implies that the disclosure of the use of "ordinary titanium oxide" in Ohno constitutes "a fixed dye", and that the disclosed "ordinary titanium oxide" includes examples at 20% concentration rendering the concentration limitation of Claim 37 obvious. Applicant cannot agree. Contrary to the Examiner's representation, "ordinary titanium oxide" is not disclosed as a "fixed dye," but rather as a component for providing "photochromic titanium oxide."

Specifically, Ohno (at column 5, line 65 - column 6, line 12) states (with emphasis added) that:

> Further, **ordinary titanium oxide may also be compounded with other inorganic or organic compounds, and then it can be given photochromic properties.**
>
> Composites which contain titanium oxide possessing photochromic properties are obtained by, for example, the method indicated below. **Following the addition of 0.05-5.0% by weight of an iron powder or iron compound to a titanium**

> **dioxide-coated complex such as titanium-mica or titanium-talc**, etc., using a dry method such as a ball mill, or a wet method such as addition in the form of an aqueous solution, **the titanium oxide complex is obtained** by either heating at 600.degree.-1100.degree. C., or obtaining the complex allowing iron powder or iron compound to co-exist at the time of formation of a titanium dioxide complex by hydrolysis of titanyl sulfate, etc. followed by heating at 60020 -1100.degree. C.

The text above from Ohno describes "ordinary titanium oxide" as a component in forming a photochromic agent. Further the examples in Ohno using "ordinary titanium oxide" (Recipe A at column 9, lines 45-55 and Table 5 at column 12, lines 47-67) include iron powder, talc and mica, all three of which are described above for forming a photochromic compound out of "ordinary titanium oxide". Thus, the "ordinary titanium oxide" cited by the Examiner as a "fixed dye" is instead explicitly disclosed as an example of a metal used to give photochromic properties, and can in no way be construed to be a "fixed dye" in the Examples provided in Ohno. Accordingly, these claims are not rendered obvious by Ohno.

Further, as "ordinary titanium oxide" is not a "fixed dye", as recited in Group II, Ohno also does not render the limitation of the fixed color dye having a "concentration of 5-25% by weight of the reversible composition" obvious, as the 20% recited by the Examiner is not taught by Ohno to be a "fixed dye". Accordingly, these claims are not rendered obvious by Ohno.

Issue 3: Whether claims 33, 35, and 40 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno and Motion (U.S. Pat. No. 5,656,668).

A. Group III Is Not Obvious Because There Is No Teaching Or Suggestion To Combine the Prior Art To Make Out A Prima Facie Case

The Examiner states that claims 33, 35, and 40 are obvious over Ohno and Motion, as Ohno does not disclose a pH range while Motion discloses a pH range of 5.8-7.5.

Applicant asserts that the suggested combination fails to render Group III obvious as Ohno and Motion take mutually exclusive paths to formulating a photochromic composition, and thus teach away from the suggested combination. Specifically, Motion is directed to an organic photochromic agent. See the Abstract of Motion. Conversely, Ohno teaches an organic photochromic agent. See the Abstract of Ohno. Further, Ohno teaches away from organic photochromic compounds. Ohno (at column 2, line 35-52). Accordingly, Ohno and Motion take mutually exclusive paths to formulating a photochromic compound, and Ohno teaches away from the suggested combination. Thus, the Examiner has not established a prima facie case of obviousness because there is no suggestion combined the reference teachings as suggested. Accordingly, Applicant submits that Group III is not obvious in view of the suggested combination.

B. Group III Is Not Obvious Because There Is No Teaching or Suggestion of All of the Claim Limitation to Make Out a Prima Facie Case

As Group III contains similar limitations to those argued above for Group II in Issue 2, Group III is likewise not obvious in view of Ohno, as Ohno does not teach or suggest a "fixed dye". Further, Motion does not cure this deficiency, as Motion is combined merely for the pH range.

Issue 4: Whether claims 34 and 41 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno and Akshi (U.S. Pat. No. 5,166,345).

A. Group IV Is Not Obvious Because There Is No Teaching Or Suggestion To Combine the Prior Art To Make Out A Prima Facie Case

The Examiner states that claims 34 and 41 are obvious over Ohno and Akashi, as Ohno does not disclose a photochromic composition comprising a benzene derivative and a binder while Akashi discloses water-soluble photochromic polymers having a benzyl group.

Applicant asserts that the suggested combination fails to render Group IV obvious as Ohno and Akashi take mutually exclusive paths to formulating a photochromic composition, and thus teach away from the suggested combination. Specifically, Akashi is directed to an organic photochromic agent. See the Abstract of Akashi. Conversely, Ohno teaches an organic photochromic agent. See the Abstract of Ohno. Further, Ohno teaches away from organic photochromic compounds. Ohno (at column 2, line 35-52) states (with emphasis added) that:

> In addition, **in the case of organic photochromic agents, the degree of color change does not shift gradually corresponding to the change of light intensity, but rather, color change occurs**

> **rapidly at a certain fixed light intensity. This makes such organic photochromic agents unsuitable** for regulating changes in color rendering accompanying changes in light intensity. **Furthermore, in the case of use in cosmetics, etc., the safety of organic photochromic agents with respect to the human body is not sufficiently confirmed and moreover, various other issues remain unknown, such as the occurrence of photodegradation.**
>
> On the contrary, inorganic photochromic agents such as titanium oxide are thought to be unable to obtain a sufficient degree of coloring to be able to regulate color rendering at a fixed level even when blended into ingredients such as foundation due to the color change of the inorganic photochromic agent itself being comparatively small.

Accordingly, Ohno and Akashi take mutually exclusive paths to formulating a photochromic compound, and Ohno teaches away from replacing the inorganic photochromic agents of Ohno with the organic photochromic agents of Akashi, as suggested by the Examiner. Thus, the Examiner has not established a prima facie case of obviousness because there is no suggestion combined the reference teachings as suggested. Accordingly, Applicant submits that Group IV is not obvious in view of the suggested combination.

B. Group IV Is Not Obvious Because There Is No Teaching or Suggestion of All of the Claim Limitation to Make Out a Prima Facie Case

As Group IV contains similar limitations to those argued above for Group II in Issue 2, Group IV is likewise not obvious in view of Ohno, as Ohno does not teach or suggest a "fixed

dye". Further, Akashi does not cure this deficiency, as Akashi is combined merely for the teaching of photochromic polymers with a benzyl group.

Issue 5: Whether claims 47-50 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno and Coates (U.S. Pat. No. 5,188,815).

A. Group V Is Not Obvious Because There Is No Teaching Or Suggestion To Combine the Prior Art To Make Out A Prima Facie Case

The Examiner states that claims 47-50 are obvious over Ohno and Coats, as Ohno does not disclose a thermochromic composition while Coats discloses a thermochromic cholesterol.

Applicant asserts that the Examiner has failed to make a prima facie case for the suggested combination fails for several reasons:

(1) The Examiner's conclusion of obviousness is based on improper hindsight reasoning and that the reasoning provided is merely a conclusiory statement that does not meet the examiner's burden of showing a suggestion or motivation to combine. Group V recite disbursing both a thermochromic composition and a photochromic composition in a single water-based cosmetically acceptable carrier. The Examiner sets forth the motivation to combine Ohno and Coates as obvious "because of an expectation to successfully producing a cosmetic composition with both photochromic and thermochromic properties and thus enhancing the overall color change effects of the composition." Such advantages are set out in the present invention at page 13, line 25 - page 14, line 6, stating in part: "use of photochromic and

thermochromic pigment jointly in the same formula can produce a second, third, and sometimes multiple colors." While such advantages are set out in the present invention, there is no teaching of these advantages in the art, and the Examiner has improperly used the present specification as a blueprint for assembling the suggested combination. Accordingly, Applicant submits that Group V is not obvious in view of the suggested combination.

(2) Applicant asserts that the suggested combination fails to render Group V obvious as Ohno teaches away from the suggested combination with Coates. Specifically, Coates is directed to an organic thermochromic agent. See the Abstract of Coates. Conversely, Ohno teaches an organic photochromic agent, and the undesirability of the use of organic agents in cosmetics. Ohno (at column 2, line 35-52) states (with emphasis added) that:

> In addition, in the case of organic photochromic agents, the degree of color change does not shift gradually corresponding to the change of light intensity, but rather, color change occurs rapidly at a certain fixed light intensity. This makes such organic photochromic agents unsuitable for regulating changes in color rendering accompanying changes in light intensity. **Furthermore, in the case of use in cosmetics, etc., the safety of organic photochromic agents with respect to the human body is not sufficiently confirmed** and moreover, various other issues remain unknown, such as the occurrence of photodegradation.
>
> On the contrary, inorganic photochromic agents such as titanium oxide are thought to be unable to obtain a sufficient degree of coloring to be able to regulate color rendering at a fixed level even when blended into ingredients such as foundation due to the color change of the

inorganic photochromic agent itself being comparatively small.

Accordingly, Ohno teaches away from including any organic compound in the cosmetic formulation of Ohno. Thus, the Examiner has not established a prima facie case of obviousness because there is no suggestion combined the reference teachings as suggested. Accordingly, Applicant submits that Group V is not obvious in view of the suggested combination.

B. Group V Is Not Obvious Because There Is No Teaching or Suggestion of All of the Claim Limitation to Make Out a Prima Facie Case

As Group V contains similar limitations to those argued above for Group II in Issue 2, Group V is likewise not obvious in view of Ohno, as Ohno does not teach or suggest a "fixed dye". Further, Coates does not cure this deficiency, as Coates is combined merely for the teaching of a thermochromic cholesterol.

Issue 6: Whether claims 43, 45, 46, and 51 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno, Motion, and Coates.

A. Group VI Is Not Obvious Because There Is No Teaching Or Suggestion To Combine the Prior Art To Make Out A Prima Facie Case

As Group VI contains similar limitations to those argued above for Group III in Issue 3, Group VI is likewise not obvious in view of the suggested combination for lack of teaching or

motivation to combine the Ohno and Motion references as suggested by the Examiner.

As Group VI contains similar limitations to those argued above for Group V in Issue 5, Group VI is likewise not obvious in view of the suggested combination for lack of teaching or motivation to combine the Ohno and Coates references as suggested by the Examiner.

B. Group VI Is Not Obvious Because There Is No Teaching or Suggestion of All of the Claim Limitation to Make Out a Prima Facie Case

As Group VI contains similar limitations to those argued above for Group II in Issue 2, Group VI is likewise not obvious in view of Ohno, as Ohno does not teach or suggest a "fixed dye". Further, neither Motion nor Coates cure this deficiency, as Motion is combined merely for the pH range and Coates is combined merely for the teaching of a thermochromic cholesterol.

Issue 7: Whether claims 44 and 52 are obvious under 35 U.S.C. § 103 in view of the combination of Ohno, Akshi, and Coates.

A. Group VII Is Not Obvious Because There Is No Teaching Or Suggestion To Combine the Prior Art To Make Out A Prima Facie Case

As Group VII contains similar limitations to those argued above for Group III in Issue 3, Group VII is likewise not obvious in view of the suggested combination for lack of teaching or motivation to combine the Ohno and Motion references.

As Group VII contains similar limitations to those argued above for Group IV in Issue 4, Group VII is likewise not obvious in view of the suggested combination for lack of teaching or motivation to combine the Ohno and Akashi references as suggested by the Examiner.

As Group VII contains similar limitations to those argued above for Group V in Issue 5, Group VII is likewise not obvious in view of the suggested combination for lack of teaching or motivation to combine the Ohno and Coates references as suggested by the Examiner.

B. Group VII Is Not Obvious Because There Is No Teaching or Suggestion of All of the Claim Limitation to Make Out a Prima Facie Case

As Group VII contains similar limitations to those argued above for Group II in Issue 2, Group VII is likewise not obvious in view of Ohno, as Ohno does not teach or suggest a "fixed dye". Further, neither Akashi nor Coates cure this deficiency, as Akashi is combined merely for the teaching of photochromic polymers with a benzyl group and Coates is combined merely for the teaching of a thermochromic cholesterol.

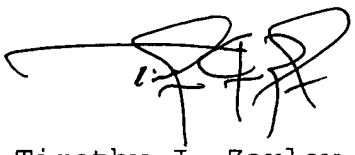
IX. Conclusion:

In view of the above arguments, Applicant believes that appealed claims 33-52 are in condition for allowance and Applicant respectfully requests reversal of the Final Office Action and allowance of such claims.

Any fees or extensions of time believed to be due in connection with this appeal are enclosed; however, consider this

a request for any fee or extension inadvertently omitted, and charge any additional fees to Deposit Account 50-2098.

Respectfully submitted,



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APPENDIX

33. A reversible cosmetic composition comprising:
a water-based cosmetically acceptable carrier;
a photochromic composition dispersed within the carrier, the photochromic composition having a concentration of 10-30% by weight of the reversible cosmetic composition;
a fixed color dye dispersed within the carrier and located exterior to the dispersed photochromic composition, the fixed color dye having a concentration of 5-25% by weight of the reversible cosmetic composition;
a light stabilizer dispersed within the carrier, the light stabilizer having a concentration of 3-4% by weight of the reversible cosmetic composition;
a bactericide dispersed within the carrier; and
wherein the reversible cosmetic composition has a pH in the range of about 6.8 to 7.2.

34. The composition according to claim 33, wherein the photochromic composition comprises a benzene derivative and a binder.

35. The composition according to claim 33, wherein the reversible cosmetic composition is shelf-stable for a time period of at least two years.

36. A reversible cosmetic composition comprising:
a water-based cosmetically acceptable carrier;
a photochromic composition dispersed within the carrier; and
a fixed color dye dispersed within the carrier and located exterior to the dispersed photochromic composition.

37. The composition according to claim 36, wherein the photochromic composition have a concentration of 10-30% by weight of the reversible cosmetic composition, and the fixed color dye has a concentration of 5-25% by weight of the reversible cosmetic composition.

38. The composition according to claim 36, further including a light stabilizer dispersed within the carrier, the light stabilizer having a concentration of 3-4% by weight of the reversible cosmetic composition.

39. The composition according to claim 36, further including a bactericide dispersed within the carrier.

40. The composition according to claim 36, wherein the reversible cosmetic composition has a pH in the range of about 6.8 to 7.2.

41. The composition according to claim 36, wherein the photochromic composition comprises a benzene derivative and a binder.

42. The composition according to claim 36, wherein the reversible cosmetic composition is shelf-stable for a time period of at least two years.

43. A reversible cosmetic composition comprising:
a water-based cosmetically acceptable carrier;
a thermochromic composition dispersed within the carrier;
a photochromic composition dispersed within the carrier, the photochromic and thermochromic compositions having a

combined concentration of 10-30% by weight of the reversible cosmetic composition;

a fixed color dye dispersed within the carrier and located exterior to the dispersed photochromic and thermochromic compositions, the fixed color dye having a concentration of 5-25% by weight of the reversible cosmetic composition;

a light stabilizer dispersed within the carrier, the light stabilizer having a concentration of 3-4% by weight of the reversible cosmetic composition;

a bactericide dispersed within the carrier; and

wherein the reversible cosmetic composition has a pH in the range of about 6.8 to 7.2.

44. The composition according to claim 43, wherein the photochromic composition comprises a benzene derivative and a binder.

45. The composition according to claim 43,wherein the thermochromic composition comprises from about 20-40% by weight thermoset resin, from about 15-45% by weight cholesterol, from about 15-30% by weight water, and from about 10-30% by weight dye.

46. The composition according to claim 43, wherein the reversible cosmetic composition is shelf-stable for a time period of at least two years.

47. A reversible cosmetic composition comprising:

a water-based cosmetically acceptable carrier;

a thermochromic composition dispersed within the carrier;

a photochromic composition dispersed within the carrier; and

a fixed color dye dispersed within the carrier and located exterior to the dispersed photochromic and thermochromic compositions.

48. The composition according to claim 47, wherein the photochromic and thermochromic compositions have a combined concentration of 10-30% by weight of the reversible cosmetic composition, and the fixed color dye has a concentration of 5-25% by weight of the reversible cosmetic composition.

49. The composition according to claim 47, further including a light stabilizer dispersed within the carrier, the light stabilizer having a concentration of 3-4% by weight of the reversible cosmetic composition.

50. The composition according to claim 47, further including a bactericide dispersed within the carrier.

51. The composition according to claim 47, wherein the reversible cosmetic composition has a pH in the range of about 6.8 to 7.2.

52. The composition according to claim 47, wherein the photochromic composition comprises a benzene derivative and a binder.